Te Whatu Ora Nelson Marlborough
(formerly Nelson Marlborough District Health Board)
General Surgeon, Dr B

A Report by the

Health and Disability Commissioner

(Case 20HDC00176)

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Executive summary

1. This report concerns the care provided to a man in his sixties by Te Whatu Ora Nelson Marlborough (formerly Nelson Marlborough District Health Board (NMDHB)) and a general surgeon. The man had several comorbidities, including a history of lung cancer that had required the removal of a lung. The man underwent an acute colonoscopy for the investigation of ongoing gastrointestinal bleeding. Multiple polyps were discovered and removed. During the procedure, the man suffered a perforation to his colon, and subsequently passed away.

2. This report concerns the management of the colonoscopy, and discusses the importance of robust communication between treating clinicians, and of reviewing relevant clinical history prior to surgery.

Findings

3. The Commissioner considered that NMDHB did not communicate effectively to ensure the coordination of the man's care. In particular, there was no nurse-to-nurse handover from the ward to the endoscopy suite (which was not in line with NMDHB policy), and the endoscopy team was unaware of the man's prior pneumonectomy until serious difficulties were encountered. The Commissioner found Te Whatu Ora Nelson Marlborough in breach of Right 4(5) of the Code.

4. The Commissioner also found the surgeon in breach of Right 4(1) of the Code for the failure to review the man's clinical notes prior to the procedure, resulting in the procedure being undertaken with an incomplete clinical picture and the man being administered an inappropriate induction dose of sedation through endoscopist-led sedation.

Recommendations

5. The Commissioner recommended that Te Whatu Ora Nelson Marlborough provide a written apology to the man's whānau and provide information to HDC relating to the progress of its recommendation to develop a printable summary of the medical history of complex vulnerable patients.

6. The Commissioner recommended that the surgeon provide a written apology to the man's whānau.

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Complaint and investigation

7. The Health and Disability Commissioner (HDC) received a complaint via the Coroner about the services provided by Nelson Marlborough District Health Board (NMDHB) (now Te Whatu Ora Nelson Marlborough)[1] to Mr A (deceased). The following issues were identified for investigation:

- *Whether Nelson Marlborough District Health Board provided Mr A with an appropriate standard of care in 2018.*
- *Whether Dr B provided Mr A with an appropriate standard of care in 2018.*

8. The parties directly involved in the investigation were:

Consumer's daughter	
Dr B	Provider/general surgeon
NMDHB	Provider/district health board

9. Also mentioned in this report:

Dr C	General surgeon
RN D	Registered nurse

10. Further information was received from the Coroner.

11. Independent advice was obtained from an emergency medicine physician, Dr John Bonning (Appendix A), and a general surgeon, Dr Gerrie Snyman (Appendix B).

12. I offer my sincere condolences to Mr A's whānau for their loss.

Information gathered during investigation

Background

13. Mr A (aged in his sixties at the time of these events) had several co-morbidities,[2] including a history of lung cancer that had required a pneumonectomy (removal of one lung). In 2018, Mr A was admitted to Nelson Hospital's Emergency Department (ED) under NMDHB and treated for a heart attack. It was noted during this admission that Mr A had been experiencing ongoing gastrointestinal (GI) bleeding. Mr A presented to ED on two further

[1] On 1 July 2022, the Pae Ora (Healthy Futures) Act 2022 came into force, which disestablished all district health boards. Their functions and liabilities were merged into Te Whatu Ora|Health New Zealand. All references to NMDHB in this report now refer to Te Whatu Ora Nelson Marlborough.

[2] Including squamous cell carcinoma of the lung (lung cancer), left pneumonectomy (removal of the left lung), previous radiation therapy (for the treatment of lung cancer), angina (chest pain caused by reduced blood flow to the heart), and pericardial effusion (the build-up of too much fluid in the structure around the heart).

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occasions on Day 6[3] and Day 17, and had various investigations into the cause of the bleeding. On Day 22, Mr A underwent an acute colonoscopy. Multiple polyps (a growth of tissue from a surface in the body) were discovered and removed. During this procedure, Mr A suffered a perforation to his colon. Subsequently he passed away.

14. This report concerns the appropriateness of the investigations into the cause of Mr A's bleeding, in particular the management of his colonoscopy on Day 22.

First hospital admission — Days 1–4

15. Mr A presented to the ED at NMDHB on Day 1 following a visit to his general practitioner (GP) for chest pain. Mr A was admitted to the Cardiology Department and found to have had a heart attack (a non-ST-elevation myocardial infarction (NSTEMI)). On Day 3, he underwent an angiography[4] with angioplasty[5] (balloon only, no stent), and was prescribed multiple medications to assist in his recovery (ticagrelor,[6] atorvastatin,[7] perindopril,[8] and bisoprolol[9]).

16. The clinical notes show that Mr A had several other medical conditions, including that he had only one lung. It was also documented that Mr A was experiencing GI bleeding, which was thought to be increasing.

17. Mr A was referred for an outpatient computed tomography (CT) colonography[10] and discharged home on Day 4.

Second hospital admission — Days 6–8

18. On Day 6, Mr A presented to ED with fresh GI bleeding[11] that he reported had increased since commencing ticagrelor. Mr A was seen by an emergency medicine doctor, who took his history and conducted an examination and assessment. The examination showed a soft (non-acute) abdomen, with no obvious anal cause for the bleeding (ie, no evidence of haemorrhoids, etc).

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[3] Relevant dates are referred to as Days 1–22 to protect privacy.
[4] An imaging test that uses X-rays to look for narrow, blocked, enlarged, or malformed arteries or veins in the body.
[5] A procedure used to open blocked coronary arteries and restore blood flow to the heart muscle without open-heart surgery.
[6] A medication used for the prevention of stroke, heart attack, and other events in people with acute coronary syndrome.
[7] A class of lipid-lowering medications that reduce illness and mortality in those who are at risk of cardiovascular disease.
[8] A medication to treat high blood pressure.
[9] A medication used for heart disease, including high blood pressure, chest pain from insufficient blood flow to the heart, and heart failure.
[10] A method of examining the inside of the colon by taking a series of X-rays, usually to screen for polyps or cancerous growths.
[11] Mr A reported that since his last admission he had experienced 4–5 episodes of fresh blood in his stool.

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19. Mr A was admitted to the general surgery ward for two days, and it was considered that he was stable enough not to require an acute in-patient colonoscopy at that time. A colonoscopy is the examination of the inside of the colon (large intestine) using an instrument inserted into the rectum. Instead, Mr A underwent a proctoscopy (a rigid sigmoidoscopy),[12] an investigation to examine the anal canal and rectum (not the whole length of the large intestine). This showed no external or rectal cause for the bleeding and identified the likely cause as diverticular bleeding.[13]

20. Mr A was discharged on Day 8 with a plan for him to undergo an outpatient endoscopy (colonoscopy) "within the next [two] weeks", and he was advised to return to ED if necessary.

Third hospital admission — Day 17

Emergency Department

21. Mr A presented to the ED on Day 17 with further GI bleeding, chest discomfort, and dizziness/vertigo.[14] He was assigned a triage level of two, indicating that he should be seen within 10 minutes of arrival. The triage notes document Mr A's history of pneumonectomy and his cardiac history.

22. The admission note documents that Mr A was pale and was experiencing chest discomfort, and he reported that since his discharge on Day 8 he had had three episodes of perirectal (GI) bleeding every second day, which was dark red but with a volume less than prior to his surgical admission on Day 6.

23. It was documented that on examination, Mr A's abdomen was soft and non-tender, and that there was no fresh GI bleeding. Mr A's clinical history was recorded in the admission note.[15]

24. It is also documented in the ED clinical notes that the diagnosis at that time was thought to be GI haemorrhage, and that the chest pain and dizziness was likely due to anaemia. The management plan was to insert an IV line, take blood for a red blood cell count, admit Mr A to the general surgery ward, and expedite a gastroscopy (an upper GI endoscopy) — a procedure to examine the upper part of the digestive system. Mr A was later given a blood transfusion and admitted to the general surgery ward under the care of general surgeon Dr C.

Admission to general surgery

25. Dr C saw Mr A during a ward round on Day 17, and documented an impression of a bleeding ulcer. Dr C recorded a plan for an acute gastroscopy the following day, for ticagrelor to be

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[12] Examination of the anal cavity, rectum, or sigmoid colon.

[13] Bleeding from pouches (diverticuli) that have developed in the wall of the large intestine (colon), causing blood to appear in the stool.

[14] A sensation of whirling and loss of balance.

[15] "Admitted under Cardiology [Days 1–4] with [heart attack] — started on aspirin and ticagrelor — had x 1 episode PR bleeding during this admission — booked for [outpatient] CT colonoscopy. Presented to ED on [Day 6] with [perirectal] bleeding — admitted under surgeons — nil found on [further investigations]."

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ceased, aspirin to be continued to protect against coronary blood clots, and for the stool chart to be continued.

26. On Day 18, Mr A underwent a gastroscopy (upper GI endoscopy), but no apparent reason for the bleeding was identified. NMDHB advised that the results of the gastroscopy were discussed with Mr A and his family, and they were anxious to know when a colonoscopy would occur.

Handover to Dr B

27. On Day 19, a combined ward round occurred with Dr C and general surgeon Dr B. The clinical notes record that the results of the gastroscopy were discussed, including that no cause for the bleeding had been identified, and that a colonoscopy would be planned for Day 22 (if available). It was also documented that Mr A had no chest pain at that time. NMDHB told HDC that at this point, Mr A's care was transferred from Dr C to Dr B (as the senior clinician on call over the weekend), but that Dr C would take back Mr A's care on the Monday.

28. NMDHB told HDC that Dr C discussed Mr A's comorbidities with Dr B at the bedside, but Dr B does not recall any mention of other significant comorbidities (such as Mr A's pneumonectomy) during the ward round. Dr C told HDC:

> "I handed [Mr A] over to [Dr B] and, as is standard, listed his presenting complaint, past medical history, medications and the plan. I believe the handover between [Dr B] and I was appropriate. I did not see [Mr A] in the morning on Monday as I do not work at the DHB on a Monday morning. [Dr B] had been caring for him over the weekend."

29. Dr B told HDC that the combined ward round consisted of taking handover of the surgical in-patients for the weekend, which at that time was around 20 patients. Dr B said that each of the 20 patients had a bedside handover. Dr B recalls a conversation around Mr A's recurrent admissions with "transfusion dependent PR bleeding" (blood transfusion depending on the amount of bleeding via the rectum). Dr B told HDC that Mr A's recent heart attack made the risk of surgery "dangerously high", but it was believed to be necessary at that point to perform a colonoscopy due to the risks associated with allowing the bleeding to continue, in that it could lead to a second heart attack. Dr B told HDC:

> "I do not recall a conversation about his pneumonectomy from that handover. Therefore, a handover and an understanding of his cardiac co-morbidities **did** [Dr B's emphasis] occur, but the entirety of his co-morbidities were not appreciated. I do not believe that knowledge about his pneumonectomy 10 years prior would have changed the plan for colonoscopy or the process of the procedure."

30. Mr A remained in hospital over the weekend, in preparation for the colonoscopy on Day 22.

31. Mr A was placed on the morning list with another general surgeon. However, because the morning list ran over time, Mr A was transferred to Dr B's afternoon list.

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Colonoscopy procedure — Day 22

Transfer to endoscopy suite

32. NMDHB told HDC that at 1.45pm on Day 22, Mr A was transferred from the ward to the endoscopy waiting area, but was not accompanied by a nurse escort, and an official nurse-to-nurse handover did not occur, which “was not consistent with [NMDHB] policy in effect at the time”. NMDHB told HDC:

> “Our view is a lack of clarity on the expected standard and ambiguity in our policy around transfer of patients between departments and wards was a contributor to this gap in care … [T]he policy ‘Transfer of Patients to and from Operating Theatre’ provided a situation where a nurse escort was not required, in the case of patients presenting for a day-stay procedure. This included patients presenting for an elective (planned) colonoscopy.”

33. However, NMDHB advised that the exemption for nurse-to-nurse handover for day-stay patients was not applicable in Mr A’s case, as he was an acute in-patient being transferred from the ward to the endoscopy unit. NMDHB said that it is understood that there was a discussion between the endoscopy and ward nurses via a telephone call prior to Mr A going to the endoscopy unit, but it accepts that there was a lack of nurse-to-nurse handover at the time.

34. NMDHB told HDC that on arrival in the endoscopy suite, the surgical team completed a sign-in (led by Dr B), which included completing the “Endoscopy Safety Checklist” and the “Pre-procedure assessment”*,* and obtaining informed consent for the procedure. Dr B told HDC that Mr A’s notes were not reviewed formally prior to the colonoscopy, because Dr B believed at that time that all of Mr A’s relevant past medical history was known from the bedside handover with Dr C that had occurred on Day 19. Dr B told HDC:

> “I do however recall discussing [Mr A’s] recent [heart attack] and its inherent risks with him and asking about other significant co-morbidities. He did not mention his pneumonectomy from 10 years ago. However, it is not unusual for patients to fail to mention a historic operation from that long ago. I thus did have an awareness of significant, co-morbidities relevant to the procedure, prior to starting the procedure.”

35. Dr B said that despite being unaware of Mr A’s prior pneumonectomy, this would not have changed the subsequent management of Mr A.

36. Dr B told HDC that the procedure was explained to Mr A, and the risks of infection, bleeding, perforation, and the procedure being “incomplete” were documented. Dr B did not document the risk of a cardiac event, but told HDC that this was discussed with Mr A over the weekend “and during the Friday ward round where [they] had weighed up the risks and benefits of an acute [colonoscopy]”. Dr B stated that Mr A said that he had no further questions, and he signed the consent form.

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Sedation

37. Dr B told HDC that at the time of events, there was no routine availability of an anaesthetist in the endoscopy suite. Dr B said that general anaesthetic scope lists are booked on a monthly basis and have anaesthetists allocated to them. However, Dr B advised that on other endoscopy lists, the duty anaesthetist is covering the entire theatre suite, and would not be able to attend for the commencement of the procedure routinely. Dr B told HDC that there is no availability of a second endoscopist to attend as the sedating doctor without prior arrangement, which was not possible in this case because Mr A was not "an expected addition to this list".

38. A registered nurse at NMDHB told HDC that at this stage, she noticed that Mr A had not been loaded on to the Theatre Management System (TMS), and so she loaded him into the system.

39. Following the sign-in procedure, Registered Nurse (RN) D[16] began to administer sedation and analgesia (pain relief) intravenously, which included the prescribed doses of midazolam 3mg and fentanyl 75mg.[17] It is documented that Mr A was "very sensitive" to the medication and was "quickly sedated". RN D told HDC that she alerted Dr B to Mr A's apparent sensitivity to the medication. NMDHB told HDC that Dr B assessed Mr A, and he was "responsive to firm voice and a shoulder shake, had a good pulse and a blood pressure of 100/60 [within normal range] and that his oxygen saturations were noted to be ">90 with nasal oxygen and he was a good colour".

40. Dr B told HDC that Mr A's response to the sedation was assessed, and a joint decision among all staff present was not to administer a reversal agent (a drug used to reverse the effects of anaesthetic) and to continue with the procedure.

Procedure

41. Dr B said that Mr A's oxygen saturations remained stable for most of the procedure, "demonstrating that he was not experiencing reduced respiratory capacity compared to his normal state from the sedation". However, the operation notes document that the colonoscopy procedure was technically difficult and complex due to Mr A's agitation, and that the procedure was tolerated poorly because of Mr A's "respiratory instability".

42. During the procedure, it was identified that Mr A had large polyps[18] in his colon (the sigmoid (splenic flexure[19]) and a smaller but significant distal transverse[20] polyp), but that there was no evidence of active or recent bleeding.

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[16] It is of note that initially the procedure was undertaken without anaesthetist input.

[17] RN D and Dr B told HDC that the dose of midazolam was meant to be 4mg, but it was agreed with all surgical staff to reduce this to 3mg given Mr A's sensitivity to the dosage.

[18] Pedunculated polyps (hanging stalk-like lumps on the lining of the colon or rectum).

[19] The sharp bend between the transverse colon and descending colon in the upper abdomen.

[20] The distal transverse colon is the top part of the intestines that extends across the abdominal cavity joining the ascending colon to the descending colon.

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43. Dr B removed the distal transverse polyp and proceeded to remove the splenic flexure polyp, during which an arterial bleed occurred and Mr A became agitated and was moving around the bed while Dr B was trying to stop the bleeding.

44. An on-call anaesthetist was called to assist in controlling Mr A's agitation. NMDHB told HDC that Mr A remained stable during this time despite the "ongoing active arterial bleed in his colon". However, the clinical notes do not reflect this, and while trying to stop the bleeding, Mr A's oxygen saturations began to fall.

45. NMDHB told HDC that the on-call anaesthetist arrived at approximately 2.45pm. On arrival of the anaesthetist, Mr A's oxygen saturation was recorded as 60%, and his respiratory rate as 40 breaths per minute. The anaesthetist's impression was that Mr A had hypercarbia (high carbon dioxide in the bloodstream) and was in peri-respiratory arrest.[21] Mr A was then intubated.[22]

46. NMDHB told HDC that at this stage, the anaesthetist asked the endoscopy team about Mr A's co-morbidities, and "it was then that [Dr B] became aware of [Mr A's] past medical surgical history of pneumonectomy back in 2008, of which [Dr B] … had no knowledge of prior to [the] procedure".

47. Following stabilisation of Mr A by the anaesthetist, the further large polyp was removed. However, NMDHB told HDC that following an attempt to extubate[23] Mr A, he became increasingly agitated with increased respiratory effort, and a joint decision was made to re-intubate, sedate, and transfer Mr A to the Intensive Care Unit (ICU).

Subsequent events

48. Mr A remained in ICU and underwent various interventions, but remained unwell. Mr A began to show signs of sepsis. A CT scan showed free air in the abdomen, consistent with a bowel perforation.

49. NMDHB told HDC:

> "The family were notified of these findings and made aware of the diagnosis of sepsis due to bowel perforation and that this was certainly related to the bowel wall being damaged during the colonoscopy. In consultation with the ICU team and family a 'not for resuscitation' in the event [Mr A] suffered a cardiac arrest was jointly decided."

50. Mr A's condition continued to deteriorate and, sadly, he passed away.

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[21] Respiratory arrest is the absence of breathing; peri-respiratory arrest is the time just prior to and after a respiratory arrest.

[22] A tube was inserted into his windpipe to assist his breathing.

[23] Remove the endotracheal tube.

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Further information

NMDHB

51. NMDHB conducted a Serious Event Review (SER),[24] which was given a Severity Assessment Code (SAC) rating of 1 (severe).[25] A summary of the changes made as a result of the SER are included below (at paragraph 101).

52. A Root Cause Analysis identified several issues, including the following:

- The clinician who performed the colonoscopy (Dr B) was not aware of Mr A's history of a pneumonectomy.
- There was no nurse-to-nurse handover during the transfer from the ward to the endoscopy unit.
- The dose of sedation drugs selected for the colonoscopy seemed high for a man in Mr A's condition, and titration (starting with a low dose) of the drugs and careful monitoring of their effects was indicated.

53. NMDHB met with Mr A's whānau on 4 May, 18 May, and 16 July 2018 to review the draft SER report.

Dr B

54. Dr B told HDC:

> "[NMDHB] has conducted its own investigation and review of practice (at my request) and we have made substantive changes to our processes, particularly around communication, handover and documentation. I am confident that these would minimise a similar event occurring in the future. Once again I would like to pass on my sincere condolences to the family."

Responses to provisional decision

Mr A's daughter

55. Mr A's daughter was given the opportunity to respond to the "information gathered" section of the provisional report and she had no further comments to make.

Te Whatu Ora Nelson Marlborough and Dr B

56. In response to the provisional decision, Te Whatu Ora Nelson Marlborough advised that it accepted the proposed recommendations.

57. Dr B did not have any further comments to make in response to the provisional decision.

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[24] Finalised on 13 July 2018.

[25] SAC rating 1 is defined by the Health Quality and Safety Commission as follows: "Death or permanent severe loss of function not related to the natural course of the illness; differs from the immediate expected outcome of the care management; can be sensory, motor, physiological, psychological or intellectual."

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Opinion: Nelson Marlborough District Health Board — breach

Introduction

58. As part of my assessment of this complaint, I obtained independent clinical advice from an emergency medicine specialist, Dr John Bonning, and a general surgeon, Dr Gerrie Snyman.

59. Dr Bonning assessed the emergency medicine care provided to Mr A on the three occasions on which he presented to NMDHB ED. Dr Bonning advised that the care provided to Mr A in the ED on all three admissions was "entirely appropriate", and he did not identify any areas of concern. Accordingly, my opinion has focused on the care Mr A received in general surgery, including the acute colonoscopy on Day 22. The issue for me to determine is whether Mr A received care of an appropriate standard, and whether in the provision of that care there was appropriate communication and coordination of services.

Communication

60. Mr A had multiple significant co-morbidities, including a recent heart attack, persistent GI bleeding (with no known cause), and previous pneumonectomy for the treatment of lung cancer. In the context of this case, these conditions were relevant history to guide the clinical decision-making — as discussed below.

61. On Day 19, a combined ward round occurred with Dr C and Dr B. The clinical notes record that the results of the gastroscopy were discussed, that no cause for Mr A's bleeding had been identified, and that a colonoscopy had been planned for Day 22. Mr A's care (for the weekend) was transferred from Dr C to Dr B (as the senior clinician on call over the weekend). Dr C recalls discussing Mr A's presenting complaint with Dr B, and also his past medical history and medications. Dr C believes that the handover with Dr B was appropriate. However, Dr B does not recall being advised of Mr A's previous pneumonectomy. Documentation relating to this handover does not show that the pneumonectomy was discussed between the clinicians. While I am unable to determine conclusively whether the pneumonectomy was discussed, it was relevant clinical history, and Dr B's lack of knowledge of it is indicative of a communication breakdown during this process.

62. Mr A was booked for an acute colonoscopy on the morning list for Day 22, but was changed to Dr B's afternoon list because the morning bookings ran late. Mr A was transferred to the endoscopy suite without a nurse escort or a nurse-to-nurse handover. I acknowledge that although there was no nurse escort, NMDHB's understanding was that a telephone discussion took place between the endoscopy unit and ward nurses prior to Mr A going to the unit.

63. NMDHB told HDC that the absence of a nurse escort was not in line with its policy at the time of these events. It considers that ambiguity in its "Transfer of patients to and from Operating Theatre" policy likely contributed to this gap in care, as the policy did not require a nurse escort when patients were presenting for a day-stay procedure, including an elective colonoscopy.

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64. However, NMDHB accepted that the exemption did not apply in this case, as Mr A was an acute in-patient being transferred from the ward to the endoscopy unit.

65. I am concerned that there was a lack of nurse-to-nurse handover when Mr A was transferred to the endoscopy unit. This would have provided an opportunity for Mr A's significant co-morbidities to have been communicated to the surgical team. Although I have acknowledged NMDHB's understanding that a telephone call took place prior to the transfer, the details of the call (including who made and received the call and the content of the call) have not been made available to HDC, and it is clear that the surgical team was unaware of all Mr A's comorbidities prior to the procedure commencing. This indicates that this information was not communicated to the surgical team, and the lack of a nurse-to-nurse handover was a missed opportunity for that communication to occur. My independent advisor, general surgeon Dr Gerrie Snyman, concurred that it appears that the lack of a nurse escort or nurse-to-nurse handover in this case meant that there was no awareness of Mr A's co-morbidities at sign-in.

66. NMDHB told HDC that a further discussion between Dr C and Dr B on Day 22 was not necessary, as the bedside handover had occurred between the clinicians (as per NMDHB policy) on Day 19. Dr Snyman agreed, "provided earlier handover has taken place appropriately, appropriate and informative procedure booking documentation is used, ward to endoscopy handover has taken place and [there is] a pre-procedure acknowledgement of particular complexities".

67. I discuss below the individual responsibility of Dr B, as the operating surgeon, to review relevant patient notes. However, as this Office has stated previously:[26]

> "[R]elevant history should be considered when treating patients. The system needs to reliably alert treating clinicians to the existence of relevant information, particularly in relation to that patient's history in that institution."

68. Dr Snyman advised that the overall failure of individuals and teams within NMDHB to communicate and coordinate Mr A's care effectively, particularly in relation to his significant co-morbidities, represents a moderate departure from the accepted standard of care. Dr Snyman advised that the inadequate communication removed the opportunity to review and potentially change the clinical decisions if needed. He stated:

> "The endoscopy team was unaware of [Mr A's] pneumonectomy. This was the result of a number of oversights, predominantly around communication and handover of care … A pneumonectomy reduces respiratory capacity by approximately 30% … This meant that the endoscopy team could not consider the implications the pneumonectomy may have on the dose of sedation chosen. This was in my opinion, a significant deficiency when planning to give sedation that can cause respiratory depression and start a procedure that can potentially impair a patient's ability to breathe normally … By not

[26] See Opinion 09HDC01505 www.hdc.org.nz

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being aware of all the facts, the team denied [Mr A] the opportunity to have a potentially different approach to his sedation and his procedure."

69. I accept Dr Snyman's advice.

70. Where multiple clinicians and teams are involved in a patient's treatment, particularly a patient with significant co-morbidities, robust and open communication is the cornerstone of providing safe and effective care. In this case, staff at NMDHB failed to communicate effectively to ensure the co-ordination of Mr A's care. I am particularly concerned that there was no nurse-to-nurse handover from the ward to the endoscopy suite on Day 22 (which was not in line with NMDHB policy). I consider that the effect of these failings was compounded by the fact that Dr B was not aware of Mr A's history of pneumonectomy following the bedside handover with Dr C on Day 19 (although I am unable to make a finding on whether or not Dr C did communicate this to Dr B), all of which culminated in the endoscopy team not being aware of Mr A's pneumonectomy prior to or during the colonoscopy procedure until serious clinical difficulties were encountered.

71. Right 4(5) of the Code of Health and Disability Services Consumers' Rights (the Code) stipulates that "[e]very consumer has the right to co-operation among providers to ensure quality and continuity of services". As outlined above, multiple individuals and teams failed to communicate effectively, which contributed to a breakdown in the quality and continuity of services provided to Mr A.

72. While individual staff members hold some degree of responsibility for their failings (discussed in further detail below), I consider that the deficiencies outlined above indicate a service level communication breakdown at NMDHB, for which it bears responsibility at an organisational level. Accordingly, I find that NMDHB breached Right 4(5) of the Code.

Endoscopist-led sedation — adverse comment

73. NMDHB told HDC that an anaesthetist is not available in the endoscopy suite routinely, and that general anaesthetic scope lists (anaesthetist-led sedation procedures) are booked on a monthly basis and have anaesthetists allocated to them at that stage.

74. Endoscopist-led sedation procedures are booked with an anaesthetist covering the entire theatre suite, meaning that the anaesthetist "would not routinely be able to attend for the commencement of the procedure". Further, NMDHB stated that there is no availability for a second endoscopist to attend as the "sedating doctor" without prior arrangement, which meant that this was not possible in Mr A's case because he was an "unexpected addition to th[e] list".

75. Dr Snyman advised that the vast majority of endoscopies in New Zealand are performed with endoscopist-led sedation, and that in most cases, endoscopists "are comfortable to provide common sense sedation to patients with multiple co-morbidities".

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76. However, Dr Snyman also advised that this is dependent on careful deliberation and judgement of individual patient co-morbidities. In this case, Dr B was not aware of Mr A's pneumonectomy before making the decision to commence endoscopist-led sedation.

77. Dr Snyman advised that in Mr A's case, most of his colleagues would have chosen anaesthetist-led sedation. Dr Snyman stated:

> "Whilst I do not disagree with the decision to proceed with sole endoscopist led sedation, I am cautious to endorse this. I suspect that many of our colleagues would be uncomfortable to provide both sedation and procedure in a similar situation without a second clinician, especially given [Mr A's] particular set of co-morbidities."

78. I accept Dr Snyman's advice in this regard. I do, however, acknowledge Dr Snyman's comments that "[e]ndoscopist led sedation is in most institutions left up to the discretion of the endoscopists themselves". In any event, I am concerned that the option of anaesthetist-led sedation was not available on Day 22 at NMDHB for Mr A's colonoscopy, due to a policy that did not allow for flexibility in the accessibility of anaesthetists when unexpected additions to a surgical list occurred. I acknowledge that following these events, NMDHB amended its policy to allow anaesthetist-led sedation to be an option in cases such as this.

Opinion: Dr B — breach

Introduction

79. Mr A was booked for an acute colonoscopy on the morning of Day 22 with another general surgeon. However, because the morning procedures ran late, Mr A was moved to Dr B's afternoon list. Dr B had a duty to provide services to Mr A with reasonable care and skill.

Knowledge of pneumonectomy

80. Dr B was unaware of Mr A's surgical history of pneumonectomy. Dr B said that this was not mentioned during the bedside handover with Dr C on Day 19, or prior to the colonoscopy procedure on Day 22.

81. Dr C recalls discussing Mr A's presenting complaint with Dr B, and also his past medical history and medications. Dr C believes that the handover with Dr B was appropriate. The clinical documentation of the handover does not indicate that the pneumonectomy was discussed, and I am unable to make a finding on whether or not Dr B was advised of Mr A's pneumonectomy during the handover with Dr C.

82. Notwithstanding the above, Mr A's relevant medical history was contained in his clinical notes and history.

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83. As discussed above, I have found deficiencies in the care provided to Mr A by NMDHB relating to failures by multiple staff and teams to communicate effectively about Mr A's co-morbidities. However, I also note Dr Snyman's comments:

> "It must be said that whatever lack of process, or communication failure, may have contributed to the situation, the final and ultimate responsibility belongs to the endoscopist. By commencing with a booked procedure, the clinician indicates by their actions that they are comfortable, after taking everything into consideration, that the procedure is appropriate."

84. I accept Dr Snyman's advice. Dr B has accepted that Mr A's notes were not reviewed to ascertain that the proposed course of action (to undertake the colonoscopy procedure) was appropriate. I acknowledge Dr B's statement that had Mr A's pneumonectomy been know, the approach would not necessarily have changed.

85. I am not critical of the decision to proceed with the colonoscopy procedure, noting the importance of ascertaining the cause of Mr A's ongoing GI bleeding. However, I am critical that Dr B did not review Mr A's notes to gain an awareness of his significant and relevant medical history.

86. As this Office has stated previously:[27]

> "The onus is on the clinician to ask the relevant questions, examine the patient and keep proper records. Only then is the clinician in a position to properly consider all the risks, review all available appropriate information, and then and only then, proceed to perform the surgery."

87. Dr Snyman considers that this omission constitutes a moderate to severe departure from the accepted standard of care. In summary, he advised:

> "I have based the severity of this deviation from standard of care not on the outcome of [Mr A's] procedure, but on the potential for harm that may ensue from starting any procedure without being familiar with a patient's notes."

88. I accept and agree with this advice.

Sedation

89. Dr B's failure to review Mr A's history meant that this information was not factored into the plan for sedation.

90. First, Dr Snyman raised concern about the decision to opt for endoscopist-led sedation instead of anaesthetist-led sedation. As discussed above in relation to NMDHB, I am concerned that the DHB did not have an anaesthetist or second endoscopist available for Mr A's acute colonoscopy on Day 22. However, I also note Dr Snyman's comments that the

[27] Ibid.

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decision to proceed with endoscopist-led sedation is, in most cases, at the discretion of the endoscopist and after deliberation of all relevant co-morbidities. While Dr Snyman disagreed with Dr B's decision to proceed with endoscopist-led sedation in this case due to Mr A's significant co-morbidities, he noted that the decision was made without full knowledge of this information.

91. Second, Dr Snyman advised that in any event, "[i]f any endoscopist was comfortable to provide the sedation themselves, they would have started at minimal sedation and titrated the dose upwards as absolutely necessary".

92. Dr B directed RN D to administer 75mcg of fentanyl and (initially) 4mg of midazolam. On administration, RN D alerted Dr B to Mr A's noticeable sensitivity to the sedatives, and consequently he was administered only 3mg of midazolam (which became the induction dose). Dr Snyman advised that the recommended maximum dose is 100mcg fentanyl and 5mg midazolam, and it is recommended not to exceed these doses when providing endoscopist-led sedation.

93. Dr Snyman further commented that although the doses given to Mr A were on the "higher end" of the recommended dose, the chosen dose in itself was not a deviation from the appropriate standard of care. I accept Dr Snyman's advice in this regard.

94. However, Dr Snyman advised that sedation can quickly progress from "moderate" to "deep", and that this progression is usually dose dependent, with the most common side effect of deeper sedation being respiratory distress. Dr Snyman advised:

> "[Mr A's] agitation, desaturation and subsequent peri-arrest were likely secondary to a combination of multiple factors. Sedation, reduced respiratory capacity from his pneumonectomy, abdominal distension from insufflation splinting his diaphragm and vasovagal response secondary to bowel distension; all would have contributed."

95. Dr Snyman considers that because of Mr A's reduced respiratory capacity due to his pneumonectomy, the induction dose used by Dr B (although within a reasonable dosage limit) was not appropriate in Mr A's circumstances. Dr Snyman advised that the principle of conscious sedation is that a low dose is given and titrated to provide conscious, comfortable sedation.

96. In summary, Dr Snyman advised HDC:

> "The induction dose decided upon did not however take into consideration the effect a pneumonectomy may have. This deficiency of full knowledge meant that there was a lack of careful consideration as to what effect the combination of co-morbidities and sedation dose may have … This, in my opinion combines to constitute a moderate deviation from standard of care."

97. I agree with Dr Snyman's advice. I also note that this was identified in the internal review conducted by NMDHB following these events. I conclude that the failure to review Mr A's

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full clinical picture adequately meant that Dr B induced sedation with a higher dose of medication without due consideration to Mr A's particular clinical circumstances, and which in his particular circumstances was not appropriate. I acknowledge that when Dr B was alerted to Mr A's sensitivity to the sedation, the dose of midazolam was lowered from the planned 4mg to 3mg.

Conclusion

98. Dr B, as the clinician performing the colonoscopy procedure on Day 22, had ultimate responsibility for ensuring that Mr A's relevant clinical history was known prior to the procedure. I acknowledge Dr B's comments that Mr A was an unexpected addition to the afternoon scope list. However, I also agree with Dr Snyman's comments that by commencing with a booked procedure, Dr B's actions indicated that after taking everything into consideration, Dr B was comfortable that the procedure was appropriate.

99. Dr B failed to review Mr A's clinical notes, and proceeded with the colonoscopy procedure without all the relevant information, which led to the administration of an inappropriate induction dose of sedation to Mr A through endoscopist-led sedation. I have been guided by my independent advisor in reaching these conclusions.

100. Right 4(1) of the Code stipulates that consumers have "the right to have services provided with reasonable care and skill". In my view, Dr B's failures as described constitute a breach of Right 4(1) of the Code.

Changes made

101. Both NMDHB and Dr B implemented numerous changes to their processes and practice as a direct result of these events. In this regard, I note Dr Snyman's comment that the remedial measures that came from the internal investigation at NMDHB were "[a]ll excellent changes to improve care and will go a long way to prevent a similar event from happening again".

102. I also mirror Dr Snyman's comments that it is commendable that Dr B requested the review of Mr A's care as a result of an event that triggered the recognition of deficiencies in patient care at NMDHB, and that Dr B had significant input into the changes made by NMDHB (outlined below).

NMDHB

103. Subsequent to these events, NMDHB undertook the following changes:

- Its acute endoscopy booking process was amended to remove acute endoscopies from the endoscopy suite. Acute endoscopies are now ordinarily performed by the general surgery service in the operating theatre environment. On 2 December 2019, NMDHB provided a letter to staff advising of the change.

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- It introduced weekday all-day acute theatre lists (from 4 January 2023) in order to provide an appropriate pathway for anaesthetist-led sedation in theatre for patients with multiple co-morbidities who have an urgent need for a colonoscopy. The weekday acute theatre list is additional to the weekend acute list already in place.
- Its safety check-list that is performed prior to procedures was reviewed. The "Endoscopy Pathway" documentation now includes a section to highlight relevant co-morbidities and patients' capacity to give informed consent, to aid in ensuring that the process does not rely entirely on the family or their whānau to highlight risks. NMDHB provided HDC with a copy of the amended document.
- An "Introduction, Situation, Background, Assessment and Recommendation" (ISBAR) guided handover policy (for ward nurse to endoscopy nurse handover) was implemented, and a sample of this was provided to HDC.
- It was recommended that a printable summary of complex or vulnerable patients' medical history be developed to sit within the medical record. The proposal was to be put forward for ongoing funding to develop the initiative.
- The 2014 policy that was held in the Department of Anaesthesia was developed further to include information about which patients should have anaesthetist involvement, and whether the procedure should take place in the main theatre. Evidence of the amended policy was provided to HDC.
- The "Transfer of Patients to and from Operating Theatre" policy was updated to clarify that patients transferring from the ward to the endoscopy unit require a nurse escort. The amended policy was provided to HDC.
- The "Serious Adverse Event Review" policy was reviewed and updated with a flow chart detailing staff responsibilities. The amended policy was provided to HDC.
- A process was implemented to ensure that when applicable, relevant patient co-morbidities that increase the risk of a procedure are mentioned on the consent form for procedures.

Recommendations

104. I acknowledge the significant and useful internal recommendations already undertaken and completed by Dr B and NMDHB as a result of their own review of these events (discussed above).

105. In light of the changes already made, I recommend that Te Whatu Ora Nelson Marlborough:

a) Provide a written apology to Mr A's whānau for the failings identified in this report. The apology is to be provided to HDC, for forwarding to Mr A's whānau, within three weeks of the date of this report.

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b) Provide information relating to the progress of its recommendation that a printable summary of the medical history of complex vulnerable patients be developed. This information is to be provided to HDC within three months of the date of this report.

106. I recommend that Dr B provide a written apology to Mr A's whānau for the failings identified in this report. The apology is to be provided to HDC, for forwarding to Mr A's whānau, within three weeks of the date of this report.

Follow-up actions

107. A copy of this report with details identifying the parties removed, except NMDHB/Te Whatu Ora Nelson Marlborough, Nelson Hospital, and the experts who advised on this case, will be sent to the Coroner and to the Medical Council of New Zealand, and they will be advised of Dr B's name.

108. A copy of this report with details identifying the parties removed, except NMDHB/Te Whatu Ora Nelson Malborough, Nelson Hospital, and the experts who advised on this case, will be sent to the Health Quality & Safety Commission and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

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Appendix A: Independent clinical advice to Commissioner

The following expert advice was obtained from emergency medicine physician Dr John Bonning:

"My name is Dr John Bonning.

I am an emergency physician, working in the ED of a tertiary referral (Waikato) hospital. Throughout my career I have experience working in a wide variety of hospitals in New Zealand and Australia.

I have been practising as an Emergency Medicine specialist for 16 years as a Fellow of the Australasian College for Emergency Medicine. I have been a doctor for 30 years. I am President of the Australasian College for Emergency Medicine and Chair of the Council of Medical Colleges.

I have read the HDC's guidelines for independent advisors and declare that I have no conflict of interest in this case.

I have read the following key documents

1. Letter of instruction from the HDC dated 22nd October by [the] Complaints Assessment Team Leader.
2. Coroner's referral dated 27 January 2020 with appendices:
   a. Report from [anaesthetist] of NMDHB [2018] (mainly focussing on the events leading up to [Mr A's] death
   b. The NMDHB Adverse event review
3. A serious event report response to the HDC dated [2018] signed off by NMDHB [CEO]
4. Hospital medical and nursing notes/charts from admissions.

I have been asked by the Health and Disability Commissioner to provide an opinion on case number C20HDC00176 regarding the care provided to [Mr A] in [2018] in Nelson Hospital's Emergency Department (ED), whether it was reasonable in the circumstances and in particular commenting on the care given to [Mr A] in ED over three hospital admissions between [Day 1] and [Day 17]. Explicitly requested was an opinion on the adequacy of care in ED including clinical oversight, more particularly on [Day 17], taking into account the different versions of events between different parties. Was there a departure from standard of care or accepted practice and if so how would the care have been viewed by our peers.

[Mr A] had a medical background of

- SCC lung with pneumonectomy 2008 (positive margin) and radiotherapy 2009
- Angina
- Stable pericardial effusion since 2016
- Stopped taking cardiac medication in 2016 (but later re-started Aspirin)

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1st presentation and admission [Days 1–4] MI (non-STEMI).

[Day 1] presents to ED and is diagnosed with an MI (non-STEMI). His GP had seen him for chest pain and checked a troponin which was raised, referring him to Nelson Hospital ED. The diagnosis was made on the basis of a raised troponin of 198, appropriately he was given Aspirin & Ticagrelor. His Hb was noted to be 147.

[Mr A] was admitted to Cardiology service. He was noted to have 'stopped his meds in 2016 as they did not make him feel good', although his GP had recently re-started Aspirin. Nurses and doctors at this presentation note past medical history of pneumonectomy.

[Day 3] he underwent angiography with angioplasty (balloon only, no stent). He was put on Ticagrelor, a statin, Perindopril, Bisoprolol (he had already been on Aspirin). Moderate co-morbidities noted including pneumonectomy and pericardial effusion. PR bleeding was noted and thought to be increasing from then. His Hb was 130.

[Day 4] proctoscopy undertaken (1st time) with no external cause bleeding (eg haemorrhoids) seen. Presumably given the recent coronary event it was felt appropriate to refer him for OP colonography. He was discharged home. This presentation and in particular the portion in ED progressed according to an acceptable standard of care with no departure.

2nd presentation and admission [Days 6–8]

[Mr A] presented to ED with fresh PR bleed. He had been bleeding before but increased since started on Ticagrelor post MI. He was seen by [ED Doctor] — appropriate history examination, assessment and referral documented. Examination findings were of a soft (non-acute) abdomen, no anal cause (for the bleeding) on PR, INR normal, Hb 125. Blood pressure remained stable throughout SBP 90–120 steady.

He was admitted under [general surgeon] for 2 days, felt stable enough to not need colonoscopy (requiring a few days of bowel preparation) or transfusion (Hb drop stablised). For the second time (1st had been on [Day 4]) he underwent a rigid sigmoidoscopy and no external or rectal cause for the GI bleeding was seen. Due to his recent MI and angioplasty Aspirin & Ticagrelor (anti-platelet medications) were continued.

He was discharged [Day 8] with appropriate discharge documentation and an arrangement to have an outpatient endoscopy 'within the next 2 weeks' + safety net to return to ED. Hb 106->114 on discharge. A 'call to his GP on discharge' to monitor would not be routine, this would be felt to be conveyed purely with an electronic discharge letter. This presentation and in particular the portion in ED progressed according to an acceptable standard of care with no departure.

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3rd presentation to Nelson Hospital ED on [Day 17]

Arriving at around 0924hrs re-presents to Nelson ED with PR bleed. [Mr A] self-referred to hospital but insisted on car transport to hospital not ambulance. On arrival in ED he was documented to have been 'pale, lethargic, with dizziness, chest discomfort (<10mins most days)'. There had been a history of further small lower GI bleeds (less than [previously]) and some black stool (altered blood possibly indication a gastro-intestinal bleed higher up the GI tract than the colon).

0928 triage 2 — meaning it was felt he should be seen within 10 minutes of arrival. The high triage code was on the basis of altered vital signs (pulse, blood pressure, respiratory rate). The triage notes document pneumonectomy & cardiac history.

Vital signs as follows: HR 120/min (mildly elevated), RR 20, BP 98/65 although there was some possible discrepancy and BP might have been 86/65, slightly low. Allegedly he was initially seen by a medical student or trainee intern (student doctor) under the supervision of [a consultant Emergency physician], who later documented his clinical notes electronically (although the exact time [the physician] saw [Mr A] was not documented). The time he was seen can be intuited from the timing of decisions and treatment regarding his care (below) and the precise time [the physician] saw [Mr A] personally is not of material importance.

Examination finding of an abdomen soft and non-tender with no fresh bleed PR. [Mr A] and his accompanying family member(s) felt he was going to die and were very concerned 'no resuscitation' was started. His daughter describes 'assigned to student doctor' she noted 'BP and O2 sats low' but 'no resuscitation started'. When SOB was sat up & given O2.

The admission note by [the consultant Emergency physician] (timing of note being written 1330 so post care-provision) notes the appropriate history of recent presentations with MI and GI bleeding, along with discussion of sigmoidoscopes and his anti-platelet medication. Appropriate note of symptoms and signs were documented on examination. PR findings noted. Appropriate investigations initiated (timing below).

A completely appropriate management plan of 'IV line, blood transfusion, admit General Surgery, stop anti-platelet medications' was made and documented. [The consultant Emergency physician] had initially intuited that this might have been an upper GI bleed based on the lack of findings at two proctoscopies/sigmoidoscopy and a history of malena (black tarry stools from an upper GI bleed source). This is not a critical issue (the exact site of the GI bleeding needed investigating, [the consultant Emergency physician] fulfilled his role.

There is a further medical admission note by Trainee Intern supervised by Surgical Reg (no time noted)

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- 0924hrs arrives in ED and triaged
- 1015 IV line inserted and blood taken including a group and hold (later upgraded to a cross-match when the Hb became known)
- 1020 Hb 73 noted. Note that a Hb of 110 was also noted at 1045 — see below — from the blood gas sample. Blood gas analysers are used to assess metabolic state and not usually used to check Hb although this is measured by most machines.
- 1040 intravenous N saline started. 1045 Hb 110 on VBG
- 1110 reviewed by surgical team. Nursing notes state 'awaiting packed RBC' ie blood transfusion.
- 1200 blood transfusion (2 units given 7 Feb) and admitted to General Surgical team (Dr C)
- 1210 'Cardiol Reg advises withhold Ticagrelor' although this had been earlier appropriately discussed by [the consultant Emergency physician]
- 1230 'mobilised to bathroom in wheelchair due to low BP'
- 1330hrs 2nd unit blood transfusion given.

Vital signs during stay in ED:

- RR 24 initially then 18–22 upper limit N.
- O2 sats 97% initially then 100% throughout. The low saturations noted by his daughter is most likely to have been the probe sensing poorly ie not a true (low) reading.
- BP 98/65 SBP 92->120.
- HR initially 120 then slowed (a little) to 110/minute

Further findings and plan:

- 'alert' EWS score 5 (on arrival) ->2 (at 1000hrs) — their protocol did not have escalation until EWS of 6 or greater
- 1430hrs seen by surgeon — reaffirmed the plan of 'stop Ticagrelor, continue aspirin, gastroscopy tomorrow, watch for PR blood'
- Due to the possibility of upper GI bleed (manifest by black tarry stools), a gastroscopy was performed 8 Feb and was normal

[Day 18] UGI endoscopy NAD
[Day 19] — 'for colonoscopy Day 2' (needs bowel preparation which usually takes a few days)
[Day 20] — stable on ward round, Hb 85, for transfusion [Day 21]
[Day 21] — blood transfusion?
[Day 22] colonoscopy — 3mg Midazolam & 75mcg Fentanyl & lost consciousness. [Date] deceased

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Summary

1. *Admission Days [1–4] with non-STEMI was entirely appropriate and 'at standard'*
2. *Admission from ED [Day 6] by [ED Doctor] — appropriate history examination, assessment and referral documented also appears to be entirely appropriate*
3. *Assessment and management [Day 17] in ED:*

   - *0930 arrived triage 2*
   - *1015 IV line inserted & blood sent, Hb 73 (lab) and 110 (blood gas)*
   - *1040 1hr 10 mins from arrival IV fluid started as waited for cross match to be performed and blood dispensed from blood bank*
   - *1110 reviewed by surgical team and 'blood transfusion pending'*
   - *1200hrs 1st unit blood started 2.5hrs since arrival*

Allowing for assessment and cross match, his vital signs and EWS, it is my opinion that his care on [Day 17] was timely and appropriate. He did not fulfil criteria for uncross-matched O negative blood or earlier resuscitative manoeuvres. There was some discrepancy in his Hb but it was never critically low, his vital signs were a little borderline but also not critical. His daughter reported 'low oxygen sats' but this is not recorded and likely to represent a poor reading of the monitor rather than an actual low level of saturations. He was able to sit up and remained conscious throughout his stay in ED.

It is my opinion that his Emergency care on [Day 17] met the standard of [the consultant Emergency physician's] peers and would be considered to be appropriate. In addition I am of the belief that the documentation by [the consultant Emergency physician] and all nursing staff during his ED presentation was entirely appropriate. An assessment documentation by ED doctors is not meant to be a comprehensive assessment, just one that guides the acute issue for which they are presenting and being referred for admission. Further details are invariably added by the admitting teams.

It is further my opinion that no events or treatments (their documentation or their timing) administered in ED had any manifest influence on [Mr A's] subsequent course in hospital and his subsequent (unfortunate) demise. Finally, it is a perennial balance when patients are put on 'blood thinners' such as anti-platelet medications for (potentially unstable) coronary artery disease to prevent further angina and heart attacks when these medications have a side effect that they may cause harmful bleeding, something that we regularly see in ED. This is the therapeutic balancing act we play all the time.

I would like to express my condolences to [Mr A's] family.

I trust this report is of use to the Health and Disability Commissioner.

Dr John Bonning
BHB, MBChB, FACEM"

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Appendix B: Independent clinical advice to Commissioner

The following expert advice was obtained from general surgeon Dr Gerrie Snyman:

"03 October 2020

Health and Disability Commissioner
PO Box 1791
Auckland
1140

Our ref: C20HDC00176

Complaint: Nelson Marlborough District Health Board

I have been asked by the HDC to provide an opinion to the Commissioner on case number **C20HDC00176**.

I have read and agree to follow the Commissioner's Guidelines for Independent Advisors.

My name is Gerrie Snyman. I qualified as a surgeon (FRACS) in 2003. I am a full time consultant general surgeon in a public hospital. Acute surgical conditions and endoscopy is a major part of my work load.

I do not have a personal or professional conflict in this case.

Expert advice requested:

Please review the enclosed documentation and advise whether you consider the care provided to [Mr A's] rectal bleeding at Nelson Hospital was reasonable in the circumstances, and why.

In particular, please comment on:

1. Adequacy and appropriateness of policies and processes in place at NMDHB related to management of GI bleeding and performing of endoscopies leading up to the incident in question;
2. Overall management of [Mr A's] colonoscopy procedure on [Day 22];
3. Overall management of [Mr A's] rectal bleeding prior to [Day 22] noting his co-morbidities and DAPT requirement. Was it reasonable to discharge him on two occasions before the source of his bleeding had been confirmed?
4. Adequacy and appropriateness of remedial measures coming out of the internal investigation; and
5. Any other comments or recommendations.

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For each question, please advise:

a) What is the standard of care/accepted practice?
b) If there has been a departure from the standard of care or accepted practice, how significant a departure do you consider this to be?
c) How would it be viewed by your peers?
d) Recommendations for improvement that may help to prevent a similar occurrence in future.

Documents provided

- Coroner's referral dated 27 January 2020.
- Nelson Marlborough DHB's response dated 29 May 2020
- Clinical records from Nelson Marlborough DHB covering the period from [Day 1] to [Day 22].

Additional Resource

Dossa F et al. Practice recommendations for the use of sedation in routine hospital-based colonoscopy. BMJ open Gastro 2020;7:e000348. doi:10.1136/bmjgast-2019-000348

Mitchell S. Cappell et al. Safety and efficacy of colonoscopy after myocardial infarction: an analysis of 100 study patients and 100 control patients at two tertiary cardiac referral hospitals. Gastrointestinal Endoscopy Volume 60, Issue 6, December 2004, Pages 901–909

Paul Miskovitz. The Major Complications of Colonoscopy: Sedation-Related, Hemorrhage Associated with Polypectomy and Colonic Perforation. Submitted: May 1st 2012, Reviewed: July 30th 2012 Published: February 13th 2013

Up-To-Date

Karen J. Wernli et al. Risks Associated With Anaesthesia Services During Colonoscopy. Gastroenterology 2016;150:888–894

George A T. Cardiac ischaemia and rhythm disturbances during elective colonoscopy. Frontline Gastroenterology 2010;1:131–137. doi:10.1136/fg.2010.001420

Alastair Dorreen et al. Safety of Digestive Endoscopy following Acute Coronary Syndrome: A Systematic Review. Canadian Journal of Gastroenterology and Hepatology Volume 2016, Article ID 9564529, 11 pages

Oakland K, et al. Diagnosis and management of acute lower gastrointestinal bleeding: guidelines from the British Society of Gastroenterology. Gut 2019;68:776–789. doi:10.1136/gutjnl-2018-317807

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Tal Raphaeli et al. Current Treatment of Lower Gastrointestinal Haemorrhage. Clin Colon Rectal Surg 2012;25:219–227.

Tomonori Aoki et al. Initial management for acute lower gastrointestinal bleeding. World J Gastroenterol 2019 January 7; 25(1): 69–84. DOI: 10.3748/wjg.v25.i1.69 ISSN 1007–9327

Wendy Atkin. Computed tomographic colonography versus colonoscopy for investigation of patients with symptoms suggestive of colorectal cancer (SIGGAR): a multicentre randomised trial. www.thelancet.com Vol 381 April 6, 2013

Pendséa DA et al. Complications of CT colonography: A Review. European Journal of Radiology 82 (2013) 1159–1165

Simon K. Lo. The use of carbon dioxide in gastrointestinal endoscopy. Prepared by: ASGE TECHNOLOGY COMMITTEE, www.giejournal.org

Background

On [Day 1], [Mr A] was admitted to Nelson Hospital and was successfully treated for a heart attack. It was noted during this admission that [Mr A] complained of gastrointestinal bleeding and he was discharged on [Day 4] with the plan to follow up for a CT Colonography. On [Day 6], [Mr A] was admitted to Nelson Hospital Emergency Department complaining of fresh rectal bleeding. A proctoscopy identified the likely cause to be diverticular bleeding. [Mr A] was discharged two days later with an outpatient appointment for a colonoscopy arranged.

On [Day 17], [Mr A] re-presented to ED with dizziness/vertigo and rectal bleeding, and a gastroscopy was arranged for the following day. No clear reason for the bleeding was found.

An Endoscopy was performed on [Day 22]. Multiple polyps were discovered and removed. During this procedure, [Mr A] suffered a perforation to his colon and subsequently passed away.

Summary

1. Adequacy and appropriateness of policies and processes in place at NMDHB related to management of GI bleeding and performing of endoscopies leading up to the incident in question;

   ***No** deviation from standard of care*

2. Overall management of [Mr A's] colonoscopy procedure on [Day 22];

   Appropriateness of test
   ***No** deviation from standard of care*

Names have been removed (except NMDHB/Te Whatu Ora Nelson Marlborough, Nelson Hospital and the experts who advised on this case) to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

Booking process
***No** deviation from standard of care*

Communication around the booking
***Moderate** (to severe) deviation from standard of care*

Sedation
***Moderate** (to severe) deviation from standard of care*

Actual colonoscopy and procedure
***Minor** deviation from standard of care*

Management of acute adverse event in endoscopy.
***No** deviation from standard of care*

3. Overall management of [Mr A's] rectal bleeding prior to [Day 22] noting his co-morbidities and DAPT requirement. Was it reasonable to discharge him on two occasions before the source of his bleeding had been confirmed?

   ***No** deviation from standard of care*
   Suggestion for improved practice

4. Adequacy and appropriateness of remedial measures coming out of the internal investigation;

   All excellent and relevant

5. Any other comments or recommendations.

   I have taken the liberty of rearranging the order of the questions as it allows for better flow regarding the review.

Overall management of [Mr A's] rectal bleeding prior to [Day 22] noting his co-morbidities and DAPT requirement. Was it reasonable to discharge him on two occasions before the source of his bleeding had been confirmed?

No deviation from standard of care.
Appropriately managed.
Some improved practice points (13, 14)

1. [Mr A] was admitted on [Day 1] with a Non-ST Elevation Myocardial Infarction (NSTEMI). His other co-morbidities were listed as chronic stable pericardial effusion, a pneumonectomy for lung cancer with adjuvant radiotherapy and 3 vessel coronary artery disease with angina.

2. He was started on Dual Anti-Platelet Therapy (DAPT) as part of the treatment for his NSTEMI.

3. He was noted during this admission to have bright red Per Rectum (PR) bleeding. This appeared to settle with no change in haemoglobin or cardiovascular status.

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4. A plan was made for an outpatient CT Colonography (CTC) as a diagnostic test for [Mr A's] PR bleeding.

5. Acute Lower Gastro-Intestinal (LGI) bleeding can be largely divided into two groups, major and minor. There are many algorithms, criteria scores and recommendations for this stratification available. Very simplistically put, LGI bleeding that settles quickly, a haemoglobin that stays stable and no cardio-vascular instability qualifies as minor. This minor group can be safely offered out-patient diagnostic tests. It is my opinion that a review of [Mr A's] notes supports this definition relating to his first two admissions in broad terms.

6. The two diagnostic tests for minor bleeding generally offered can be either a CTC or colonoscopy. Both tests have their advantages and disadvantages and associated risks and benefits.

7. [Mr A] was offered an outpatient CTC following his index admission which I consider to be appropriate at the time. He had just had a NSTEMI and been started on DAPT with a background of a pneumonectomy. A diagnostic CTC under these circumstances would be safer compared to a colonoscopy.

8. [Mr A] was re-admitted on [Day 6] with a recurrence of PR bleeding.

9. His anti-coagulation was withheld on admission.

10. The history recorded in the notes states that the episode started with fresh bleeding that settled over a short period of time to dark blood. A digital examination and rigid sigmoidoscopy during this admission excluded anal causes for the bleed and suggested a source of bleeding from more proximal in the colon.

11. [Mr A] remained haemodynamically stable with no significant change in his haemoglobin during this admission. A slight drop in haemoglobin compared to his index admission must be noted. This slight drop most likely reflected the overall loss of whole blood with a drop in haemoglobin as the fluid spaces return to equilibrium. It remained minimal.

12. His anticoagulation was restarted and he was observed for 24 hours prior to discharge with a plan for an outpatient colonoscopy.

13. Under ideal circumstances a rapid re-presentation to hospital with a further PR bleed whilst needing continued anti-coagulation treatment would be considered an indication for in-patient investigations. Most algorithms would suggest this as the preferred course of action. It would be appropriate to consider that re-presentation 48 hours after discharge is not so much a re-bleed as evidence of on-going bleeding.

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14. Whilst I do not specifically agree with the discharge for outpatient colonoscopy as opposed to in-patient colonoscopy, I equally consider it practical enough not to constitute a deviation from standard of care. At most I would consider this a reflection point for improved future care.

15. When [Mr A] re-presented on [Day 17] with a further bleed he was admitted and in-patient investigations initiated. The gastroscopy was in response to dark blood in the stool indicating the potential for a more proximal to the colon source of bleeding in the gastro-intestinal tract. A gastroscopy is an easy and safe test to do as part of the diagnostic tests for intestinal bleeding.

16. When the gastroscopy was negative for a source of bleeding, a colonoscopy was booked on the next available list according to the notes. This was an elective endoscopy list on the Monday following the weekend. The timing was appropriate as it allowed for routine bowel preparation for the colonoscopy.

17. In investigating acute LGI bleeding there are broadly only two tests available. Colonoscopy and CT Angiography. Each has their set of indications. The specifics of this sit outside of this review. In general, active LGI bleeding is investigated with CT angiography to localise the bleeding point and possibly embolise the bleeding point as treatment. This is generally done as an acute investigation within hours of presentation. More intermittent or slower LGI bleeding is investigated with a colonoscopy. This is generally done as soon as is practical or on the next available list, usually within days.

Overall management of [Mr A's] colonoscopy procedure on [Day 22]

18. There are several aspects to this to be considered:

    Appropriateness of test
    No deviation from standard of care

    Booking process
    No deviation from standard of care

    Communication
    Moderate (to severe) deviation from standard of care

    Sedation
    Moderate (to severe) deviation from standard of care

    Actual colonoscopy and procedure
    Minor deviation from standard of care

    Management of acute adverse event in endoscopy.
    No deviation from standard of care

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Appropriateness of the test

19. [Mr A's] presentation supported the use of colonoscopy as the investigation of choice on the next available list.

Booking Process

20. [Mr A] was booked for bowel preparation over the weekend with a colonoscopy as an acute on an elective list for the Monday.

21. I consider it the responsibility of the booking team to book a scope appropriately. This includes informing the various individuals, teams and administrative process as appropriate.

22. There is a combined consultant ward round entry on [Day 19] that delineates this plan very clearly. There is a further entry later that day from [the house surgeon] that notes this has been done.

23. There is no specific mention of the actual booking process for acute endoscopies in the documents provided. As the elective endoscopy team on the Monday was aware of [Mr A] and he was adequately bowel prepped, the actual booking process appears to have been sufficient.

24. The endoscopy assessment pathway document and consent forms in the notes appear to be adequate at the time.

Communication

25. [Mr A] had several significant co-morbidities. A recent NSTEMI on anticoagulation, new onset and persistent PR bleeding requiring transfusions, previous pneumonectomy for lung cancer and thoracic radiotherapy, chronic pericardial effusion and left ventricular failure with reduced ejection fraction.

26. In documents after the event, the endoscopist, [Dr B], states that [Dr B] was unaware and cannot recall being told of all of [Mr A's] co-morbidities. This encompassed both the Friday surgical handover for weekend care and the Monday endoscopy procedure.

27. From the various documents I understand that [Mr A] was transferred from the ward to the endoscopy waiting area without a nurse escort or an official nurse to nurse handover. This lack of handover meant there was no awareness of [Mr A's] co-morbidities at sign-in.

28. There is a comment in the post event documents that [Mr A] may have had a profound reaction to the sedation for his gastroscopy. The sedation for his gastroscopy was much less than that given for his colonoscopy. This reaction, if so, was not communicated back into the notes or onto the endoscopy documentation.

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29. There was no admitting clinician to treating clinician handover of [Mr A's] care at the time of colonoscopy. It appears from the statements that there may have been poor communication between the booking team and the clinician scheduled to perform the test.

30. Had all of this information been available at the time it might not have changed the decisions. It did, however, remove the opportunity to review and potentially change decisions if needed.

31. Based on the multiple opportunities both by individuals as well as teams to communicate with one another and coordinate the care of [Mr A], and the failure to do so, constitutes to me at least a **moderate deviation** from standard of care relating to communication and process.

32. There is no doubt in my mind that poor communication significantly contributed to the adverse event in endoscopy.

33. It must be said that whatever lack of process, or communication failure, may have contributed to the situation, the final and ultimate responsibility belongs to the endoscopist.

34. By commencing with a booked procedure, the clinician indicates by their actions that they are comfortable, after taking everything into consideration, that the procedure is appropriate.

35. By [Dr B's] own admission, [Dr B] had not reviewed the notes to ascertain … that what [Dr B] was about to do was appropriate. [Dr B] acknowledges … that [this] may not have necessarily changed [the] approach [taken].

36. This lack of awareness of significant, relevant to the procedure, co-morbidities prior to starting the procedure constituted a **moderate to severe** deviation from standard of care. I have based the severity of this deviation from standard of care not on the outcome of [Mr A's] procedure, but on the potential for harm that may ensue from starting any procedure without being familiar with a patient's notes.

Sedation

37. Studies have shown no prohibitively increased risk in colonoscopy after a myocardial infarction. Although caution is advised.

38. The vast majority of endoscopies in New Zealand are performed with endoscopist led sedation. It fulfils the criteria of light to moderate, conscious sedation. It is the expectation that the combined complexity of both sedation and procedure will be manageable at the same time by the single clinician and close observation of the patient and assistance from trained staff.

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39. If the expected complexity of an endoscopy is beyond the safety of a single clinician then a second clinician, usually an anaesthetist is enlisted to help. This allows one clinician, usually an anaesthetist, to focus solely on the sedation part of the procedure and freeing up the endoscopist to focus solely on the procedure.

40. Anaesthetic led sedation is usually provided in the operating rooms as opposed to the endoscopy rooms. This is a matter of practicality relating to the equipment and environment needed for the deeper sedation that is not usually duplicated in the endoscopy room.

41. Endoscopist led sedation is in most institutions left up to the discretion of the endoscopists themselves. There are many papers and guidelines in international literature using the American Society of Anaesthesiology classification as a guide. The truth is that many endoscopists are comfortable to provide common sense sedation to patients with multiple co-morbidities. This is however after conscious, deliberate evaluation of, and carefully judged, co-morbidities have been reviewed.

42. I am comfortable that most of my colleagues would have chosen anaestheti[st] led sedation when [Mr A's] co-morbidities (point 25) are considered. If any endoscopist was comfortable to provide the sedation themselves, they would have started at minimal sedation and titrated the dose upwards as absolutely necessary. Even then I don't know that too many would have considered providing the sedation themselves.

43. The two drugs most commonly used in endoscopic sedation are Midazolam and Fentanyl. The maximum dose recommended for these is 5mg for Midazolam and 100mcg for Fentanyl. It is recommended not to exceed these doses when providing endoscopist led sedation.

44. [Mr A] was given 75mcg Fentanyl and 3mg of Midazolam (intended to give 4mg). This would be at the higher end of sedation to start with, but not a deviation of care per se. [Mr A's] response to the drugs reflected the higher dose. He was rousable to voice combined with a firm shoulder shake. It was appropriate to continue with the colonoscopy at that stage as he was noted to maintain his vital signs and observations.

45. Sedation can progress from moderate to deep. This unintended progression is usually dose dependant. The most common side effect of deeper sedation is respiratory depression.

46. The high starting dose of drugs must be questioned when taking the pneumonectomy, and therefore the reduced respiratory capacity, into consideration.

47. [Mr A's] agitation, desaturation and subsequent peri-arrest were likely secondary to a combination of multiple factors. Sedation, reduced respiratory capacity from

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his pneumonectomy, abdominal distension from insufflation splinting his diaphragm and vasovagal response secondary to bowel distension, all would have contributed.

48. The reason for considering this deviation **moderate (to severe)** from standard of care is that it was not a deviation to do the procedure with endoscopist led sedation. The dose of drugs given, fall within accepted practice. The procedure and monitoring was appropriate and adequate. The deviation relates to sedation given whilst being unaware of relevant co-morbidities and thereby removing any opportunity to review the decision for solely endoscopist led sedation.

Actual colonoscopy and procedure

49. The various documents and colonoscopy accounts describe a standard colonoscopy until the sentinel moment.

50. There is mention in the documents that the colon was deflated in an attempt to manage discomfort which was appropriate. This indicated good awareness from the endoscopist of this contributing to agitation as a result of performing polypectomies.

51. The description of the pedunculated polypectomy at the splenic flexure describes the use of 'a good burn' prior to cutting with the diathermy. I would criticise this method as it increases the risk of focussing the current at the base of the polyp and possibly causing delayed perforation as a result of thermal injury. Most endoscopists would use fluid expansion to aid in heat dispersion as well as minimising the risk of perforation. Most endoscopists would add adrenalin into this mixture to aid immediate control of bleeding post polypectomy, followed by application of clips or endoloops if needed for bleeding. Using diathermy alone risks tipping the balance between bleeding control and thermal injury towards the latter more so than towards the former.

52. The pedunculated polypectomy in the sigmoid colon describes putting on an endoloop prior to removing the polyp. This is a reasonable practice as long as the endoscopist is careful to apply the loop a suitable distance from the perceived base of the stalk to avoid gathering too much of the mucosa and possibly the bowel wall into the loop. Doing the latter creates the risk of delayed perforation as the loop potentially releases from the tissue revealing the bowel defect some days later.

53. I consider the descriptions of the two polypectomies to represent a **minor deviation** from standard of care. I take note of the post colonoscopy perforation diagnosed later in ICU. The deviation is focussed on the technique used, irrespective of any subsequent perforation.

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Management of acute adverse event in endoscopy.

54. I am satisfied that the account of this event indicates that it was managed as well as possible at the time.

55. I would agree with the team decision to complete the procedure following intubation and stabilisation of [Mr A].

56. It is mentioned by the anaesthetist … that no Group and Hold for blood was available for [Mr A]. This is not part of the endoscopy process, but is none the less a point of criticism in the overall management of acute lower gastro-intestinal bleeding.

Adequacy and appropriateness of policies and processes in place at NMDHB related to management of GI bleeding and performing of endoscopies leading up to the incident in question

No deviation from standard of care.

1. I have not been provided with any policies or explicit description of process prior to the incident.

2. There is no mention of any specific process for booking acute endoscopies in NMDHB. It is inferred by the SAC process that there were minimal if any processes at the time.

3. The specific lack of a policy to manage GI bleeding does not constitute a deviation from standard of care. Policies are there to aid the management of conditions. The existence, or not, of a policy does not guarantee the outcome.

Adequacy and appropriateness of remedial measures coming out of the internal investigation

All excellent changes to improve care and will go a long way to prevent a similar event from happening again.

Eight recommendations from review.

1. **Item 1**: Process for arranging acute endoscopies

   Recommendation: Remove acute endoscopy from the endoscopy suite

   Acute endoscopies will ordinarily be done by the general surgical service in the operating theatre environment.

   Evidence of change: Letter of change from endoscopy lead

2. **Item 2:** Review safety check list performed prior to procedures.

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Recommendation: Review endoscopy pathway documentation to include a section to highlight relevant co-morbidities and patient's capacity to give consent. Ensure this does not depend entirely on the patient or their family to highlight risks.

Produce a new endoscopy booking form and assessment pathway.

Evidence of change: Changes have been made to relevant documents and sample provided.

3. **Item 3:** Handover policy for general surgeons to be developed in relation to nurse to nurse, surgeon to surgeon, physician to surgeon and surgeon to GP handovers.

   Recommendation: ISBAR handover from ward nurse to endoscopy nurse to be implemented.

   Evidence of change: Completed and sample provided.

4. **Item 4:** A printable summary of complex or vulnerable patients' medical history to be developed to sit within the medical record.

   Recommendation: To be included in the 2020/21 Models of care budget process.

   Evidence of change: None provided that this will continue. I take note that the proposal is to be put forward for ongoing funding. I take note of the Health Pathways Document.

5. **Item 5:** 2014 policy held in Dept. of anaesthesia should be further developed regarding which patients should have anaesthetic involvement, and whether procedure should take place in the main theatre.

   Evidence of change: Completed and document provided.

6. **Item 6:** Transfer of patient to and from operating theatre policy to be updated to clarify that patients transferring from the ward to endoscopy require a nurse escort.

   Evidence of change: Completed and policy provided.

7. **Item 7:** Serious adverse event review policy and procedure to be reviewed and updated flow chart detailing staff responsibilities to be developed.

   Evidence of change: Completed and policy provided.

4. **Item 8:** Relevant patient comorbidities that increase the risk of the procedure to be mentioned, when applicable, on the consent form.

   Evidence of change: Completed and sample provided.

Any other comments or recommendations.

5. It is commendable that [Dr B] requested the review not as a consequence of a complaint or enquiry, but as a result of an event that triggered the recognition of deficiencies in patient care.

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6. The review and subsequent recommendations have led to a significant improvement in documentation and communication processes.

7. Review of the changes made, makes me confident that these changes will minimise a similar event from happening again.

Gerrie Snyman"

The following further advice was obtained from Dr Snyman:

"22 March 2022

Our ref: C20HDC00176 — Reply 1

Complaint: Nelson Marlborough District Health Board

I have been offered an opportunity by the HDC to provide to the Commissioner further comment on case number **C20HDC00176**. This is in response to Nelson Marlborough's reply to my original report 03 October 2020.

I have read and agree to follow the Commissioner's Guidelines for Independent Advisors.

My name is Gerrie Snyman. I qualified as a surgeon (FRACS) in 2003. I am a full time consultant general surgeon in a public hospital. Acute surgical conditions and endoscopy is a major part of my work load.

I do not have a personal or professional conflict in this case.

Expert advice requested:

To respond to the replies from Nelson Marlborough.

Documents provided

- NMDHB response 26/10/2021 —[CE].
- [Dr B] response 17/09/2021.
- [RN D] response 18/10/2021.
- [Dr C] response 24/09/2021.
- [Mr A] SAE review, recommendations, action plan — last updated 30/09/2021.
- Acute endoscopy booking form, version 4, 25/02/2020.
- Handover for general surgery, issue 2, 27/05/2020.
- C20HDC00176 report Snyman 03/10/2020

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Background

On [Day 1], [Mr A] was admitted to Nelson Hospital and was successfully treated for a heart attack. It was noted during this admission that [Mr A] complained of gastrointestinal bleeding and he was discharged on [Day 4] with the plan to follow up for a CT Colonography. On [Day 6], [Mr A] was admitted to Nelson Hospital Emergency Department complaining of fresh rectal bleeding. A proctoscopy identified the likely cause to be diverticular bleeding. [Mr A] was discharged two days later with an outpatient appointment for a colonoscopy arranged.

On [Day 17], [Mr A] re-presented to ED with dizziness/vertigo and rectal bleeding, and a gastroscopy was arranged for the following day. No clear reason for the bleeding was found.

An Endoscopy was performed on [Day 22]. Multiple polyps were discovered and removed. During this procedure, [Mr A] suffered a perforation to his colon and subsequently passed away.

Summary (<u>one change</u> in question 2, colonoscopy procedure)

1. Adequacy and appropriateness of policies and processes in place at NMDHB related to management of GI bleeding and performing of endoscopies leading up to the incident in question;

   ***No** deviation from standard of care*

2. Overall management of [Mr A's] colonoscopy procedure on [Day 22];

   Appropriateness of test

   ***No** deviation from standard of care*

   Booking process

   ***No** deviation from standard of care*

   Communication around the booking

   ***Moderate** (to severe) deviation from standard of care*

   Sedation

   ***Moderate** (to severe) deviation from standard of care*

   Actual colonoscopy and procedure

   ***No** deviation from standard of care*
   (previously considered minor)

   Management of acute adverse event in endoscopy.

   ***No** deviation from standard of care*

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3. Overall management of [Mr A’s] rectal bleeding prior to [Day 22] noting his co-morbidities and DAPT requirement. Was it reasonable to discharge him on two occasions before the source of his bleeding had been confirmed?

   ***No** deviation from standard of care*
   Suggestion for improved practice

4. Adequacy and appropriateness of remedial measures coming out of the internal investigation
   All excellent and relevant

5. Any other comments or recommendations.

Reply

I will focus on NMDHB’s replies in general questioning some of my statements in my original report.

[Mr A’s] co-morbidities and the lack of awareness of his pneumonectomy in relation to his colonoscopy.

1. I take note of [Dr B’s] reply that [Dr B was] aware of [Mr A’s] comorbidities, but can’t recall mention of the pneumonectomy. [Dr B] … does not believe that it would have changed [the] approach.

2. An integral part of a procedure is being familiar with the patient’s co-morbidities and their relevance to the risks and complications of the procedure.

3. The endoscopy team was unaware of [Mr A’s] pneumonectomy. This was the result of a number of oversights, predominantly around communication and handover of care. The pneumonectomy information was available in [Mr A’s] notes.

4. A pneumonectomy reduces respiratory capacity by approximately 30%. This reduction may have little noticeable effect on normal day to day activities. A pneumonectomy becomes more significant when it comes to the ability to recruit additional respiratory capacity when under respiratory duress. It is in the latter situation where the reduced capacity may lead to rapid decompensation, disproportionate to what we would expect in patients with two lungs.

5. This meant that the endoscopy team could not consider the implications the pneumonectomy may have on the dose of sedation chosen.

6. This was in my opinion, a significant deficiency when planning to give sedation that can cause respiratory depression and start a procedure that can potentially impair a patient’s ability to breathe normally.

7. This meant that the endoscopy team were unable to consider the contribution the pneumonectomy may have had when [Mr A] started to decompensate.

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8. By not being aware of all the facts, the team denied [Mr A] the opportunity to have a potentially different approach to his sedation and his procedure.

9. I continue to consider this lack of awareness of all relevant co-morbidities to be a **moderate deviation** from standard of care. I have no doubt that most of my colleagues would agree that the most relevant part of [Mr A's] co-morbidities was his past history of a pneumonectomy in relation to his proposed sedation and colonoscopy.

10. NMDHB has already effected changes that will enhance and improve communication and handover. The changes to process and documentation as provided, will decrease the likelihood of a similar event significantly.

Sedation

11. According to NMDHB, anaesthetic led sedation was not an option at the time. Whilst I do not disagree with the decision to proceed with sole endoscopist led sedation, I am cautious to endorse this. I suspect that many of our colleagues would be uncomfortable to provide both sedation and procedure in a similar situation without a second clinician, especially given [Mr A's] particular set of co-morbidities.

12. NMDHB have changed their model of care to allow for this to be an option in the future.

13. I take note of [Dr B's] reply that [Dr B] feels prior knowledge of [Mr A's] pneumonectomy would not have influenced [the] sedation dose decision.

14. I personally disagree with the induction dose of sedation that was given.

15. I would consider the doses as given to a co-morbid patient to be too high as an induction dose. If one of the co-morbidities is a pneumonectomy, the doses given at the start of the procedure were excessive in my opinion.

16. The principle of conscious sedation is that a low dose is given and titrated to provide conscious comfort sedation.

17. The reason my original report may appear contradictory is based on the drug doses as given, did not exceed the ultimately recommended maximum doses. The induction dose decided upon did not however take into consideration the effect a pneumonectomy may have. This deficiency of full knowledge meant that there was a lack of careful consideration as to what effect the combination of co-morbidities and sedation dose may have.

18. See points 44–47 in my original report.

19. This, in my opinion combines to constitute a **moderate deviation** from standard of care.

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20. I have little doubt that most of our colleagues would agree that the induction doses chosen were too high for [Mr A].

21. I take note in the NMDHB replies that no confirmation of drug reaction relating to the gastroscopy was verified. NMDHB feel that my interpretation likely stems from the review of the documents relating to the adverse event review. NMDHB state they feel this was a reflection of discussions at the time rather than a factual recounting of an event. I accept this.

22. I take note of [RN D's] (18/10/21) comment around [Mr A's] apparent sensitivity to sedation on the day of colonoscopy.

Actual colonoscopy and procedure

23. I take note of [Dr B's] reply to my criticism of [the] polypectomies. [Dr B's] description and clarification is sufficient for me to remove my finding of minor deviation from standard of care.

24. I remove my criticism regarding the blood cross match. NMDHB have clarified that an active cross match was available on the day.

Gerrie Snyman"

The following further advice was obtained from Dr Snyman:

"09 September 2022

Our ref: C20HDC00176

Complaint: Nelson Marlborough District Health Board

I have been asked by the HDC to provide a further opinion to the Commissioner on case number **C20HDC00176** requested by e-mail 02 September 2022.

I have read and agree to follow the Commissioner's Guidelines for Independent Advisors.

My name is Gerrie Snyman. I qualified as a surgeon (FRACS) in 2003. I am a full time consultant general surgeon in a public hospital. Acute surgical conditions and endoscopy is a major part of my work load.

I do not have a personal or professional conflict in this case.

Expert advice requested:

In your original advice report, you commented on the fact that there was no admitting clinician to treating clinician handover of [Mr A's] care at the time of colonoscopy, and that from the information available, it appears that there may have been poor

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communication between the booking team and [Dr B]. Can you please clarify whether there needed to be a second treating clinician handover, additional to the bedside handover that occurred between [Dr C] and [Dr B] on [Day 19].

Addendum to original report

1. From the reports and notes, it appeared to me that the handover and communication process from admission to procedure was poor. The end result was that the endoscopy team was unaware of [Mr A's] full co-morbidities. This is evidenced by [Dr B's] statement that [Dr B] was not completely aware of the list of co-morbidities. (My original report page 8, statement 26)

2. I consider the lack of a ward nurse to endoscopy nurse handover to have been an error. (My original report page 8, statement 27)

3. I take note that my comment in my original report page 8, statement 29, can be read to imply that there should have been a further clinician to clinician hand over at the time of endoscopy. This comment is to be read in the context of poor communication at the time (My original report page 8, statement 32). It is **not** to be read as a statement of handover error.

4. I do not consider there to be a need for a further clinician to clinician handover at the time of endoscopy, provided earlier handover has taken place appropriately, appropriate and informative procedure booking documentation is used, ward to endoscopy handover has taken place and a pre-procedure acknowledgement of particular complexities.

5. The improvements made by the (then) Nelson/Marlborough DHB are to be commended and will have a positive impact in the whole hand over and communication process.

6. By utilising improved documentation that highlights risky co-morbidities and by following a standard handover process, the risk of poor communication is minimised. (My original report pages 12, 13, statements 60–62, 65, 67).

Thank you, Gerrie Snyman"

Names have been removed (except NMDHB/Te Whatu Ora Nelson Marlborough, Nelson Hospital and the experts who advised on this case) to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.